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ABSTRACT

The college persistence of 1980 high school graduates and their subsequent attainment of bachelor's degrees are described with data taken from the Postsecondary Longitudinal Studies Program of the National Center for Education Statistics. Using the group of High School and Beyond 1980 graduates as a base, the persistence track transitions are charted. Six sections focus on the following: (1) introduction (persistence track model, analytic methods, report organization); (2) status in the fall of 1980 (overview, subgroup differences such as on- and off-track starts); (3) persistence through academic year 1983-84 (overview, subgroup differences such as how students left the persistence track and departure timing); (4) bachelors degree attainment (implications of starting off track, leaving the persistence track, and persisting on track); (5) transfers (rate of persisting transfers, persistence implications of transfers, degree attainment implications of transfers); and (6) discussion. Major findings include the following: about one-third of the graduating high school class of 1980 never enrolled in any type of postsecondary education; and of the 1980 high school graduates who immediately entered four-year colleges, about four of every seven persisted full time for 4 years. Two appendices provide data on methodology and technical notes (quality of estimates, statistical difference testing, and persistence modeling) and supporting tables. (SM)

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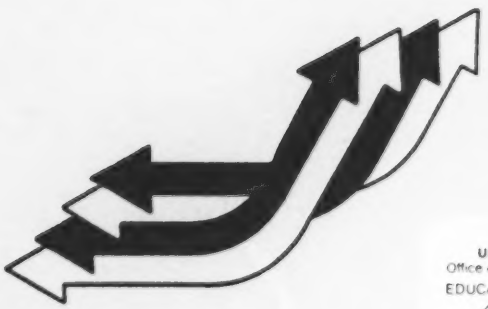

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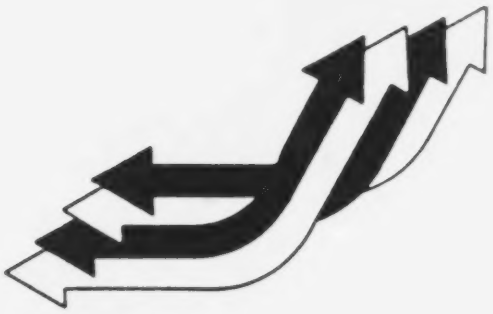
C. Dennis Carroll
Postsecondary Education Statistics Division



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FOREWORD

The Postsecondary Longitudinal Studies Program of the National Center for Education Statistics was designed to study the transitions of young adults from high school through postsecondary education and into their careers. This report capitalizes on the longitudinal or long-term aspects of a group of 1980 high school graduates as they proceeded through colleges and universities in pursuit of bachelor's degrees.

The High School and Beyond data used in this report are a rich source of information on the activities of young adults. Although this report presents estimates by gender, race/ethnicity, and socioeconomic status subgroups, many additional analyses are possible. The National Center for Education Statistics hopes that this report will inspire other researchers to use these data to pursue additional analyses. Computer tapes are available to those wishing to carry out their own analyses. Information about obtaining High School and Beyond computer tapes is available from the U.S. Department of Education, Office of Educational Research and Improvement, Information Technology Branch, 555 New Jersey Avenue NW, Room 210, Capitol Place Building, Washington, DC 20208-5725.

Samuel S. Peng, Director
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Paula Knepper and Samuel Peng of the National Center for Education Statistics (NCES) critiqued several early drafts of this report and contributed greatly to the entire process of researching and producing it.

This paper was also reviewed by Charles Cowan, Gayle Rogers, and Jeffrey Owings of NCES. In addition, David Bergeron of the Office of Postsecondary Education and Oscar Porter of the National Institute of Independent Colleges and Universities reviewed the report.

SUMMARY OF MAJOR FINDINGS

This report describes the college persistence of 1980 high school graduates and their subsequent attainment of bachelor's degrees. A few of the highlights are as follows:

- About one-third of the graduating high school class of 1980 never enrolled in any type of postsecondary education. Slightly more than one-fourth entered 4-year colleges full time in the fall immediately following graduation to pursue bachelor's degrees. The remaining two-fifths entered less-than-4-year institutions, attended part time, or delayed entry.

- Of the 1980 high school graduates who immediately entered 4-year colleges, about 4 of every 7 (or about one-sixth of the entire 1980 graduating class) persisted full time for 4-years. Nearly three-fourths of these persisters attained bachelor's degrees.

- Less than one-tenth of the 1980 graduates who entered less-than-4-year institutions, attended part time, or delayed entry subsequently attained bachelor's degrees by February of 1986.

- About one-fourth of the 1980 graduates who began college in the fall following graduation, but who subsequently left the persistence track, attained bachelor's degrees by February of 1986.

- When students shifted to part-time studies, stopped out, or transferred to less-than-4-year institutions, their subsequent attainment of a bachelor's degree dropped to about one-half the rate found for persisters.

- Although only about one-eighth of persisting students transferred from one 4-year institution to another 4-year institution, these types of transfers decreased the chances that the students would subsequently leave the persistence track.

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1. Introduction

The persistence of students in college to obtain a bachelor's degree has been a recurring policy topic. Indeed, the Postsecondary Longitudinal Studies Program of the National Center for Education Statistics (NCES) is designed to inform discussions of persistence.[1] Persistence includes several subtopics that are frequently discussed in research literature: dropouts, transfers, withdrawal, retention, and stopouts. Needless to say, persistence is complex and in many ways speaks directly to the efficiency of postsecondary education. Without persistence in college, no progress is made and no degrees are attained. Hence, discussions of college persistence deserve attention and information.

Some of the classic research on college persistence was done by Alexander Astin (*College Dropouts: A National Profile*, American Council on Education, 1972). In Astin's analysis, four categories of college students were distinguished: persisters, super-persisters, stopouts, and dropouts. Persisters were defined as students who continued toward their degree goals; super-persisters accelerated by attending during summers; stopouts withdrew and subsequently returned; and dropouts withdrew and never returned.

A theoretical model of college persistence was presented by Vincent Tinto ("Dropout from Higher Education: A Theoretical Synthesis of Recent Research," *Review of Educational Research*, 45:89-125, 1972). In his latest work (*Leaving College*, University of Chicago Press, 1987), Tinto presented flow rates based on the National Longitudinal Study of the High School Class of 1972. Tinto linked persistence with degree attainment in his models. Further, Tinto and others have identified differences in persistence and attainment by gender, race/ethnicity, socioeconomic status, and ability.

This report extends the analyses of college persistence in two ways. First, the persistence--or the flow of students through college--is examined using a yearly flow model in three parts: input, process, and output. Second, persistence is linked with degree attainment. Both of these extensions are based on the High School and Beyond data for high school graduates in 1980.

The persistence track model

The traditional flow into and through 4-year institutions toward bachelor's degrees begins in the fall following high school graduation. Full-time enrollment in 4-year institutions for the first academic year is followed by return for the second

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[1]The program also provides data concerning undergraduate access and choice, progress, attainment, graduate/professional schooling, and rates of return (see C. D. Carroll, Plans, Designs, and Specifications for the Postsecondary Longitudinal Studies Program, National Center for Education Statistics, January 1988).

academic year (following the summer[2]). This pattern of full-time enrollment continues for 4 academic years and culminates in the award of a bachelor's degree. This traditional pattern[3] or track represents an optimal flow through college. In other words, when students follow this track, they are awarded bachelor's degrees within a minimal amount of time and for a minimal cost. When students deviate from this track, they either do not earn bachelor's degrees or their degrees require more time and money.

There is a substantial body of evidence that the traditional persistence track is not the track followed by a majority of students who earn bachelor's degrees. Susan Hill (*Completion Time for Bachelor's Degrees*, National Center for Education Statistics, November 1986) found that less than one-half of bachelor's degrees were earned within 4 years of entry. Paula Knepper (*Student Progress in College*, National Center for Education Statistics, October 1988) found that bachelor's degree completion took about 8 months longer than expected to complete, with freshman and senior levels particularly prone to delays.

The diversity of deviations from the traditional persistence track can be overwhelming. Students delay entry, enroll part time, transfer to less-than-4-year institutions, stopout, and dropout to deviate from the traditional persistence track. Even students who stay on track may transfer from institution to institution. In any case, the traditional persistence track provides a point for viewing college persistence. It allows deviations to be measured and categorized. It also links with degree attainment.

Analytic methods

This report presents descriptive estimates of the rates of flow along the traditional persistence track. That is, percentages of students who stayed on track or left the track were calculated for various points along the traditional persistence track. Using the group of High School and Beyond, 1980 high school graduates as a base, the persistence track transitions were charted. The effect of charting these transitions was a winnowing of sample sizes along the track. (The base for transitions should be kept in mind as it varies substantially from the beginning to the end of the persistence track.)

Many high school students graduate and never attend postsecondary education. Clearly, these students begin off the persistence track. Other graduates delay their entry or in other ways begin off track. For those students who begin on track, there are many ways and many points in time where they may leave the persistence track. Finally, for the students who persist for a full 4 years, many require more than 4 years to attain bachelor's degrees.

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[2]Astin distinguished persisters from super-persisters based on enrollments during the summer. If students enroll during the summers to make up poor academic year grades, then the students are not super-persisting. Since the High School and Beyond data did not clearly identify the type of summer enrollments, the persisters and super-persisters were grouped together.

[3]The label "traditional" reflects the pattern of transitions 20 or more years ago when nearly all postsecondary institutions offered bachelor's degrees. Although the postsecondary sector now includes a greater diversity of institutions, the traditional perception concerning the flow of students through college toward a bachelor's degree persists.

These are a few of the transitions described in this report. The base, or denominator for percentage calculations, for transition rates shifts at each transition point. At the extremes, all 10,583 High School and Beyond 1980 high school graduates were used to estimate starting transition rates, but only 1,676 of the original group persisted through academic year 1983-84.

The High School and Beyond study began in 1980 with a sample of high school seniors. These students were followed in 1982, 1984, and 1986. Hence, the persistence track described in this report covers academic years 1980-81 through 1983-84, and bachelor's degree completion was estimated as of February of 1986. A description of the High School and Beyond study is presented in appendix A.

Four sets of subgroups are described in addition to the total group. These four subgroups were defined based on gender, race/ethnicity, socioeconomic status, and the control (for example, public or private) of the institution attended during September 1980. These four variables were selected from the huge list of possible variables that could be used to form subgroups, because they were identified in previous studies as variables that were consistently related to persistence, degree attainment, or both. Most of these four variables were related to each other. However, no attempts to identify unique relationships[4] were made.

Organization of this report

The organization of this report follows the movement onto, along, and from the traditional persistence track. Section 2 describes the flow *onto* the track, or the status of 1980 high school graduates in the fall of 1980. Section 3 describes the flow *along* the track, concentrating on how and when students left the track. Section 4 describes bachelor's degree attainment from the viewpoint of the persistence track. Section 5 describes the special case of persisting transfers. Finally, section 6 presents a discussion of the findings.

The data sources, technical notes, methods, and statistical confidence procedures are described in appendix A. Supporting tables, including standard errors and sample sizes, are presented in appendix B.

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[4]Unique relationships require statistical controls for other variables.

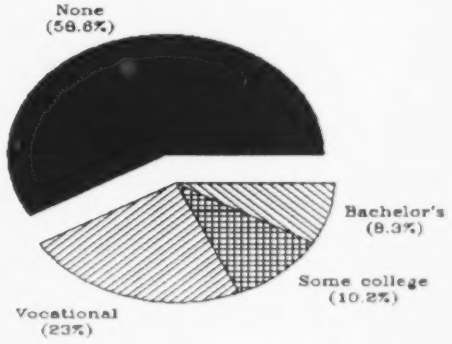
2. Status in the Fall of 1980

Overview

This section describes how 1980 high school graduates began on the college persistence track. From the vantage of the traditional persistence track, the group of 1980 high school graduates flowed into three subgroups in the fall of 1980. Following high school graduation in the spring of 1980, 29 percent of these students enrolled full time in 4-year institutions in September of 1980. The other two subgroups were never on the traditional persistence track. About one-third of the 1980 high school graduates not only did not enroll in any postsecondary institution in the fall of 1980, they never enrolled over the entire High School and Beyond survey period (through February of 1986). The remaining 38 percent of 1980 high school graduates were classified as starting off track.

For the subgroup who never enrolled in any type of postsecondary education by February of 1986, postsecondary education was rarely planned for in high school. Indeed, nearly three-fifths of these students planned no postsecondary education while in their senior year of high school (figure 2.1). Of those with postsecondary plans, the majority planned to pursue a vocational program. Finally, only 8 percent planned to attain a bachelor's degree.

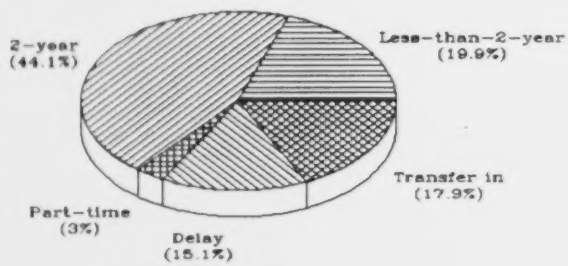
Figure 2.1
Aspirations of 1980 high school graduates never enrolled in college



Source: High School & Beyond, 1986

The group of 1980 high school graduates who started their postsecondary education off track was the largest and most diverse group. In total, 38 percent of the 1980 graduates started off track–however, this group actually consisted of 5 subgroups (figure 2.2). Over one-half of this group never attended a 4-year institution--20 percent attended less-than-2-year institutions and 44 percent attended 2-year institutions.

Figure 2.2
Composition of the group of 1980 high school graduates who started off track



Source: High School & Beyond, 1986

Another 18 percent of this group began their postsecondary education at less-than-4-year institutions and subsequently transferred into 4-year institutions. The final two subgroups began their studies at 4-year institutions in ways that put them off the persistence track. That is, 3 percent of the off-track group began their studies part time, and 15 percent delayed entry.

Subgroup differences

There were clear differences in the rates at which various subgroups of 1980 high school graduates started on the persistence track (table 2.1). Males were more likely than females to never enroll and females were more likely than males to start off track. However, females were only slightly more likely than males to start on track.

The rates for racial/ethnic subgroups[5] were similar to those found in previous research. Over two-fifths of Hispanics never enrolled. Their rate was higher than for blacks, whites, or Asians. Asians were 14 percent more likely than whites to start on the persistence track. Whites were more likely to start on track than either blacks or Hispanics.

Socioeconomic status[6] was highly related to the type of start on the persistence track. Almost one-half of the 1980 high school graduates who were in the low socioeconomic quartile never enrolled. The corresponding rate for high quartile graduates was 11 percent. Similarly, over one-half (53 percent) of high quartile

[5]Estimates for American Indians were suppressed due to small sample size.

[6]Socioeconomic status was a composite of family income, parental education levels, parental occupations, and the availability of items (for example, dishwasher) in the household. Quartiles were formed based on the weighted distribution of the total sample of all 1980 high school seniors.

Table 2.1

Rates at which selected subgroups of 1980 high school graduates started on the college persistence track (in percents)

Item	Never enrolled	Started off track	Started on track
Total	32.7	38.3	28.9
Gender			
Male	35.7	36.7	27.6
Female	29.8	39.9	30.2
Race/ethnicity			
White	31.4	38.2	30.4
Black	36.4	36.9	26.6
Hispanic	41.4	43.2	15.5
Asian	9.7	45.8	44.4
Socioeconomic status			
Low quartile	48.3	37.0	14.6
High quartle	11.2	35.9	52.8
Education aspirations 2/80			
None	75.8	23.2	1.0
Vocational	46.2	51.0	2.8
Some college	26.5	59.4	14.0
Bachelor's degree	8.7	36.5	54.9
Advanced degree	5.2	28.5	66.2

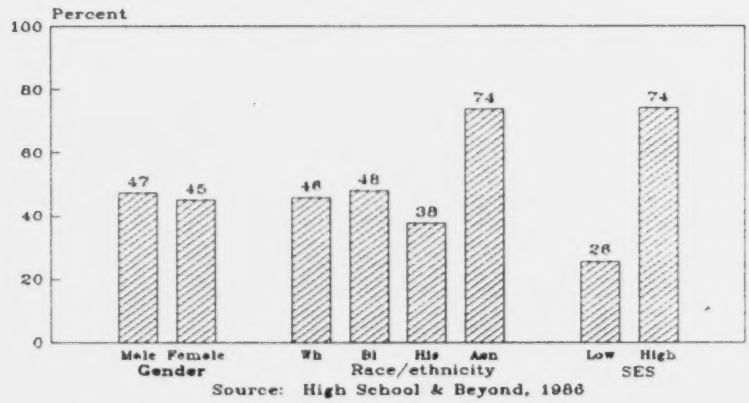
graduates started on the persistence track in comparison to 15 percent of the low quartile graduates.

To a large extent, the racial/ethnic and socioeconomic status (SES) differences reflect the relationship identified for educational aspirations. The plans for postsecondary education, held by 1980 high school seniors prior to graduation, were strongly related to their persistence. Over three-quarters of the students who planned no postsecondary enrollment did in fact never enroll. In comparison, only 5 percent of students who planned to attain an advanced degree never enrolled. Similarly, only 1 percent of seniors who planned no postsecondary enrollment started on track and two-thirds of seniors who planned to attain advanced degrees started on track.

The percentage of each subgroup that planned to attain a bachelor's degree (or higher) nearly reflects the pattern of starting on the persistence track described above.

The high aspirations of Asians and high SES quartile students (figure 2.3) correspond to high rates of starting on the persistence track (table 2.1). On the other hand, the relatively low aspirations of Hispanics and low SES graduates correspond to low rates of starting on the persistence track.

Figure 2.3
Plans for bachelor's degrees of 1980 high school graduates



Source: High School & Beyond, 1986

A few of the subgroup differences did not correspond to aspirational differences. For example, the bachelor's degree aspirations of blacks and whites were not statistically different, but whites were more likely than blacks to start on track.

Off-track starts

There were a few subgroup differences in the composition of the group of 1980 high school graduates who started off the persistence track (table 2.2). Females delayed entry less frequently than males.

Table 2.2
1980 high school graduates who started off track, by subgroups (in percents)

Item	Less than 2-year	2-year	Part-time	Delayed entry	Transfer in
Total	19.9	44.1	3.0	15.1	17.9
Gender					
Male	18.4	41.4	3.0	17.9	19.2
Female	21.1	46.4	2.9	12.7	16.8
Race/ethnicity					
White	19.5	43.5	3.0	15.3	18.7
Black	26.7	42.1	2.5	18.3	10.3
Hispanic	17.3	53.4	2.5	7.4	19.3
Asian	7.4	47.4	8.1	6.1	30.9
Socioeconomic status					
Low quartile	28.3	45.8	2.1	11.8	12.0
High quartle	9.8	36.5	5.3	22.3	26.1
Education aspirations					
None	35.8	45.0	0.8	13.9	4.5
Vocational	40.9	42.8	1.0	7.5	7.7
Some college	13.2	58.2	2.3	9.5	16.8
Bachelor's degree	6.5	36.4	4.8	21.5	30.7
Advanced degree	6.6	30.8	7.2	22.1	33.4

Proportionately, about two-thirds fewer Asians than whites (7 vs. 20 percent) started at less-than-2-year institutions and substantially more Asians than whites (31 vs. 19 percent) transferred into a 4-year institution. Proportionately, more Hispanics than whites began at 2-year institutions (53 vs. 44 percent), but no statistical differences were found in their rates of transfer.

High SES students were about one-third less likely than low SES students to begin a less-than-2-year institution and twice as likely to delay entry and transfer.

Again, educational aspirations were highly related to the type of off track start. Seniors who planned advanced degrees were more likely than students with no postsecondary plans to start part time, delay entry, and transfer.

On-track starts

When the 1980 high school graduates started on track, about two-thirds of them enrolled full time in public 4-year institutions (table 2.3). The only subgroup difference worthy of note was for socioeconomic status. High quartile SES students were more likely than low quartile students to enroll in private 4-year institutions.

Table 2.3
1980 high school graduates who started on track, by subgroups (in percents)

Item	Public	Private
Total	65.7	34.3
Gender		
Male	65.9	34.1
Female	65.5	34.5
Race/ethnicity		
White	64.9	35.1
Black	70.1	29.9
Hispanic	70.9	29.1
Asian	72.2	27.8
Socioeconomic status		
Low quartile	70.2	29.8
High quartle	61.6	38.4
Education aspirations 2/80		
Vocational	70.0	30.0
Some college	71.0	29.0
Bachelor's degree	68.1	31.9
Advanced degree	62.9	37.1

3. Persistence through Academic Year 1983-84

Overview

This section describes how the group of 1980 high school graduates who started on track[7] (full time in a 4-year institution in September of 1980) persisted through academic year 1983-84. Persistence was a matter of maintaining their full-time enrollment through May. That is, the students did not shift to part time, transfer to a less-than-4-year institution, or withdraw (as a stopout or dropout). Persistence following an intervening summer was a matter of returning to continue their full-time enrollment. That is, they returned to a 4-year institution (or did not dropout or stopout), did not return as part-time students, and did not transfer to a less-than-4-year institution.

According to this approach, there are seven critical points in determining persistence: academic year (AY) 1980-81, summer of 1981, AY 81-82, summer of 1982, AY 82-83, summer of 1983, and AY 83-84. Persistence is described in this report in terms of departures at these seven critical points.

The rates of persistence over the seven critical points were relatively high—all above 85 percent (figure 3.1). The highest rates of leaving the persistence track were during the second and fourth academic years.[8] However, the cumulative (multiplicative) effect of departures is disturbing. For 1980 high school graduates who started on the persistence track, 54 percent persisted through academic year 1983-84 (table 3.1). That is, nearly one-half of those who started left the persistence track.

When coupled with how 1980 high school graduates started, the persistence rates are low. Only 16 percent of the total number of 1980 high school graduates started on track *and* persisted through academic year 1983-84. That is, more than 5 of every 6 1980 high school graduates did *not* enter college or did *not* persist in the traditional fashion. In other words, for every 1,000 high school graduates in 1980, only 157 persisted toward a bachelor's degree on track for 4 years.

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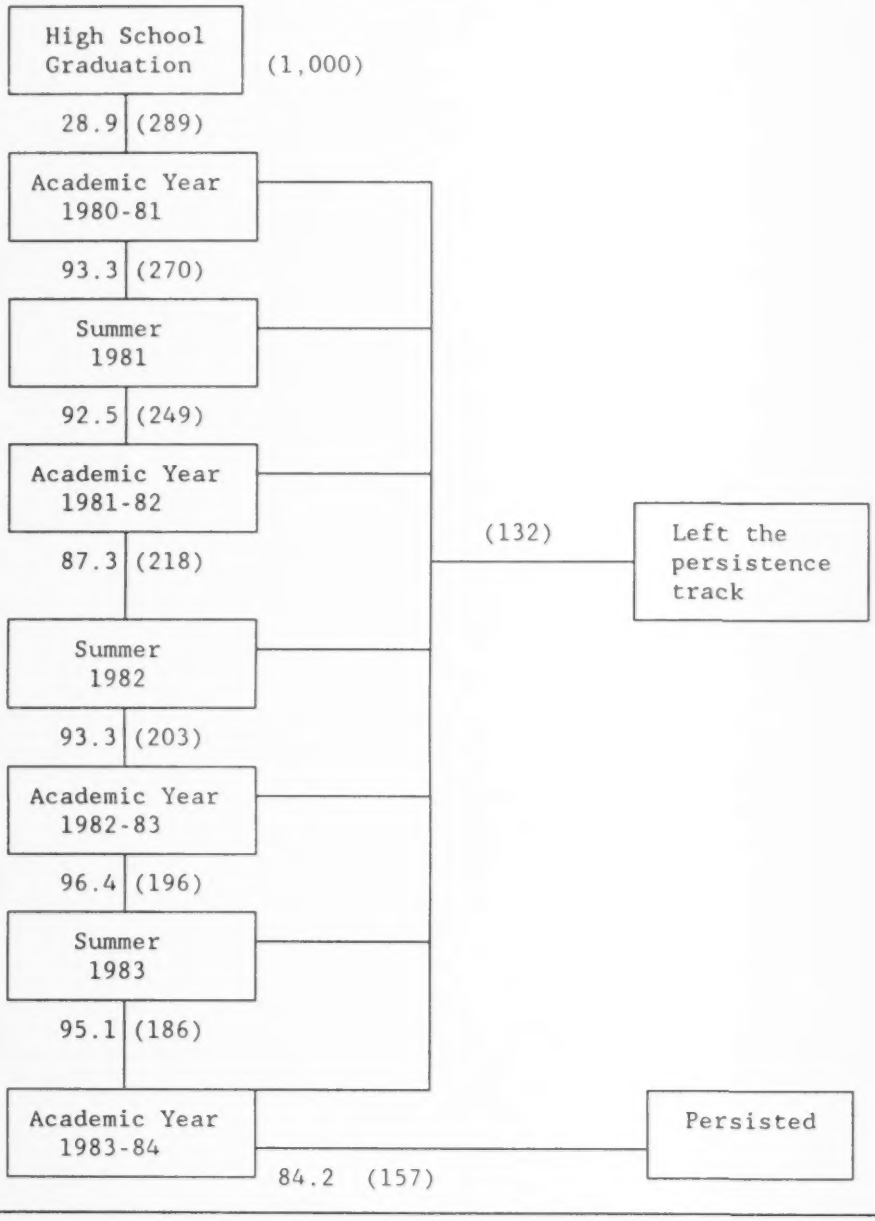
[7]The traditional persistence track, as described in section 1, reflects a commonly held perception about how students flow through college toward bachelor's degrees.

[8]The lower persistence rates for AY 81-82 and AY 83-84 may have been artifacts of the data collections conducted in February of 1982 and 1984. The event histories collected in the followups may not have merged properly, resulting in misclassified departures from the persistence track.

Figure 3.1

Persistence rates of 1980 high school graduates who started on track



Subgroup differences

There were a few differences sprinkled among the various subgroups of students (table 3.1). However, none of the patterns were consistent over all seven critical points. Some of the cumulative (multiplicative) rates from their start in academic year 1980-81 and from the point of high school graduation did show interesting differences.

Table 3.1
Persistence rates for 1980 high school graduates

Item	AY 80-81	Summer 1981	AY 81-82	Summer 1982	AY 82-83	Summer 1983	AY 83-84	From start	From high school
Total	93.3	92.5	87.3	93.3	96.4	95.1	84.2	54.3	15.7
Gender									
Male	94.1	93.1	86.5	93.5	96.4	95.9	85.1	55.7	15.4
Female	92.5	91.9	88.1	93.1	96.4	94.4	83.4	53.0	16.0
Race/ethnicity									
White	93.4	93.1	87.7	93.6	96.7	95.5	84.3	55.6	16.9
Black	91.7	89.9	83.8	90.4	93.0	92.1	81.3	43.5	11.6
Hispanic	90.6	83.0	85.6	92.3	96.6	92.2	80.1	42.3	6.5
Asian	99.4	91.8	90.1	90.8	98.5	93.4	88.6	60.9	27.1
Socioeconomic quartile									
Low quartile	91.7	90.4	79.9	91.3	94.9	86.4	84.2	41.7	6.1
High quartile	95.9	93.5	90.8	93.6	96.9	97.0	84.3	60.4	31.9
Type of college 9/80									
Public 4-year	93.1	92.3	87.6	93.2	96.2	93.8	82.9	52.5	+
Private 4-year	93.6	92.8	86.8	93.3	96.8	97.5	86.6	57.6	+

+ not computed.

Although females were more likely to start on the persistence track than males (see section 2), the cumulative rates of persistence for females were about the same as for males, or not statistically different. Whatever advantage females started with had disappeared by the end of academic year 1983-84.

Asians persisted over the seven critical points at an apparently higher rate than whites, but this difference was not statistically significant. However, when coupled with their higher rates of starting on track, 27 percent of 1980 Asian high school graduates had persisted through academic year 1983-84 from high school. This rate was nearly one-third higher than the 17 percent rate for whites.

Blacks and Hispanics who started on track were less likely to persist than whites through academic year 1983-84. While 56 percent of whites persisted from the start, 44 percent of blacks and 42 percent of Hispanics persisted. When coupled with differences in rates of starting on track, these differences are magnified. The rate of starting ***and*** persisting on track for Hispanics was about one-half of the corresponding rate for blacks

(7 vs. 12 percent). The rate of starting *and* persisting for whites (17 percent) was about one-fourth higher than the rate for blacks.

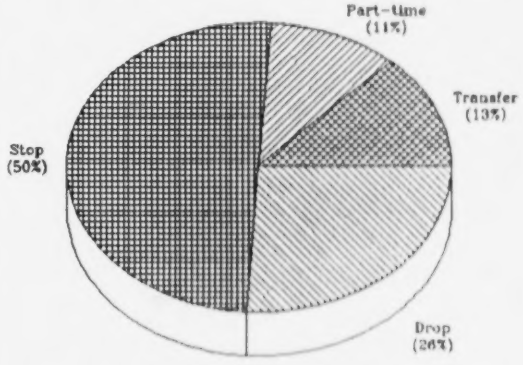
The cumulative effect of socioeconomic status was strong. About 3 out of 5 high SES 1980 graduates who started on track persisted through academic year 1983-84. In comparison, 2 out of 5 low SES students persisted. When coupled with differences in rates of starting on track, the effect of low SES was devastating–the rate of starting *and* persisting for high SES students was 5 times the rate for low SES students (32 vs. 6 percent).

Finally, there was a slight trend for a higher persistence rate for students who initially enrolled at private 4-year institutions, in comparison to students who initially enrolled at public 4-year institutions. The rate for students who began at private institutions was 58 percent and the corresponding rate for students who began at public institutions was 53 percent.

How students left the persistence track

About one-half of the 46 percent of 1980 high school graduates who started on track and subsequently left the persistence track stopped out (figure 3.2). Stopouts subsequently re-entered postsecondary institutions following some delay. A quarter of those who left never returned by February of 1986–they dropped out. One-eighth shifted to part time while remaining enrolled at their institutions. A final one-eighth transferred to less-than-4-year institutions.

Figure 3.2
How leavers left the persistence track



Source: High School & Beyond, 1986

Blacks were more likely than whites or Hispanics to drop out (table 3.2). Low SES students were three times as likely as high SES students to drop out. Finally, students who began at public 4-year institutions were more likely to drop out than students who began at private institutions.

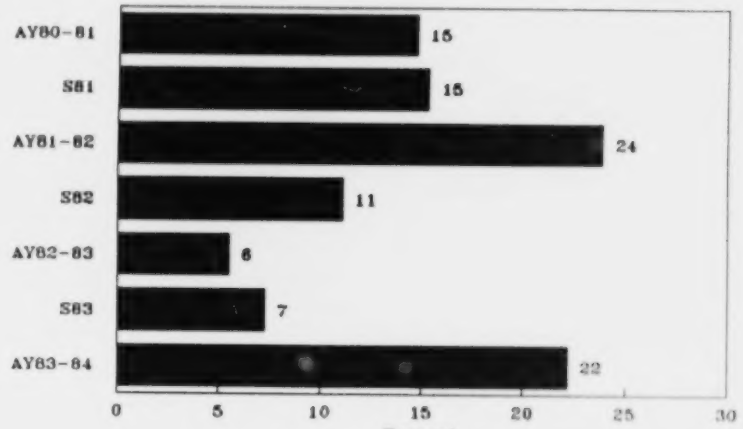
Table 3.2
Characteristics of 1980 high school graduates who left the persistence track

Item	Transfer down	Shift part-time	Stop out	Drop out
Total	12.6	11.0	50.0	26.3
Gender				
Male	13.4	10.2	52.6	23.9
Female	11.9	11.7	48.0	28.4
Race/ethnicity				
White	12.8	11.7	49.7	25.7
Black	9.6	8.8	48.6	32.9
Hispanic	16.6	6.1	56.0	21.2
Asian	18.0	5.9	57.9	18.2
Socioeconomic status				
Low quartile	11.8	7.1	37.0	44.0
High quartle	14.2	15.4	56.8	13.6
Type of college 9/80				
Public 4-year	12.2	10.7	48.3	28.8
Private 4-year	13.4	11.7	53.7	21.2

Timing of departures

Although students left the persistence track at different rates over some of the seven critical points, the timing of departures did not display a simple pattern (figure 3.3). Further, no meaningful differences in the timing of departures were found for the selected subgroups (table 3.3).

Figure 3.3
When leavers left the persistence track



Source: High School & Beyond, 1980

Table 3.3

Distribution of departures from the persistence track

Item	Percentage leaving during AY 80-81 (0.5)	Summer 1981 (1.0)	AY 81-82 (1.5)	Summer 1982 (2.0)	AY 82-83 (2.5)	Summer 1983 (3.0)	AY 83-84 (3.5)	Average number of years
Total	14.7	15.3	23.9	11.1	5.5	7.3	22.2	1.9
Gender								
Male	13.3	14.7	26.8	11.1	5.8	6.3	22.0	1.9
Female	15.9	15.9	21.5	11.0	5.3	8.1	22.4	1.9
Race/ethnicity								
White	15.0	14.5	24.0	10.9	5.3	7.0	23.3	2.0
Black	14.6	16.4	23.7	11.7	7.8	8.2	17.7	1.9
Hispanic	16.4	26.8	18.7	8.6	3.5	7.8	18.3	1.8
Asian	1.5	20.9	23.0	19.4	2.8	12.4	20.1	2.1
Socioeconomic quartile								
Low quartile	14.2	15.1	28.7	9.8	5.3	13.4	13.5	1.9
High quartile	10.3	15.7	20.9	13.1	5.9	5.6	28.4	2.1
Type of college 9/80								
Public 4-year	14.5	15.1	22.4	10.7	5.6	8.9	22.8	2.0
Private 4-year	15.1	15.8	27.0	11.8	5.3	3.9	21.0	1.9

4. Bachelor's Degree Attainment

This section describes the relationship between persistence and degree attainment. Without persistence, there can be no progress, and with no progress there can be no degree. However, the traditional persistence track is not the only path to a degree. It is one of many paths and is considered to be the most efficient in terms of time and money. In section 2, the many different starting paths chosen by 1980 high school graduates were described and in section 3, the flow along (and frequently off of) the traditional persistence track was described. To complete the picture started by sections 2 and 3, it is necessary to describe the impact of the 1980 high school graduates' choices in terms of bachelor's degree attainment.

Figure 4.1 displays the "complete picture" of the relationship between persistence and degree attainment. About three-quarters of 1980 high school graduates who persisted for 4 years earned bachelor's degrees.[9] In comparison, when students left the persistence track, about one-third as many (28 percent) attained bachelor's degrees. When 1980 high school graduates started off track, the degree attainment rate was even lower, 9 percent.

Implications of starting off track

How 1980 high school graduates started, in relation to the persistence track, clearly influenced their attainment rates. In general, slightly more than one-half (53 percent) of the 1980 high school graduates who started on track subsequently attained bachelor's degrees (table 4.1). In comparison, 9 percent of those who started off track attained degrees.

Subgroup differences

For 1980 high school graduates who started off track, the rates of subsequent bachelor's degree attainment varied by selected subgroups. One-eighth (11 percent) of males who started off track subsequently attained degrees. The corresponding rate for females was lower, 8 percent.

Only about 1 in 20 blacks and Hispanics who started off track subsequently attained bachelor's degrees. In comparison, 10 percent of whites who started off track subsequently attained degrees. While 15 percent of Asians who started off track subsequently attained degrees, their rate was not significantly different from that of whites.[10]

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[9]Bachelor's degree attainment was time-censored by the last High School & Beyond data collection conducted in February of 1986.

[10]This failure to find a statistically significant difference may be attributable to the low sample size for Asians. Only 166 Asians in the High School & Beyond sample started off the persistence track.

Figure 4.1
Persistence and bachelor's degree attainment
of 1980 high school graduates

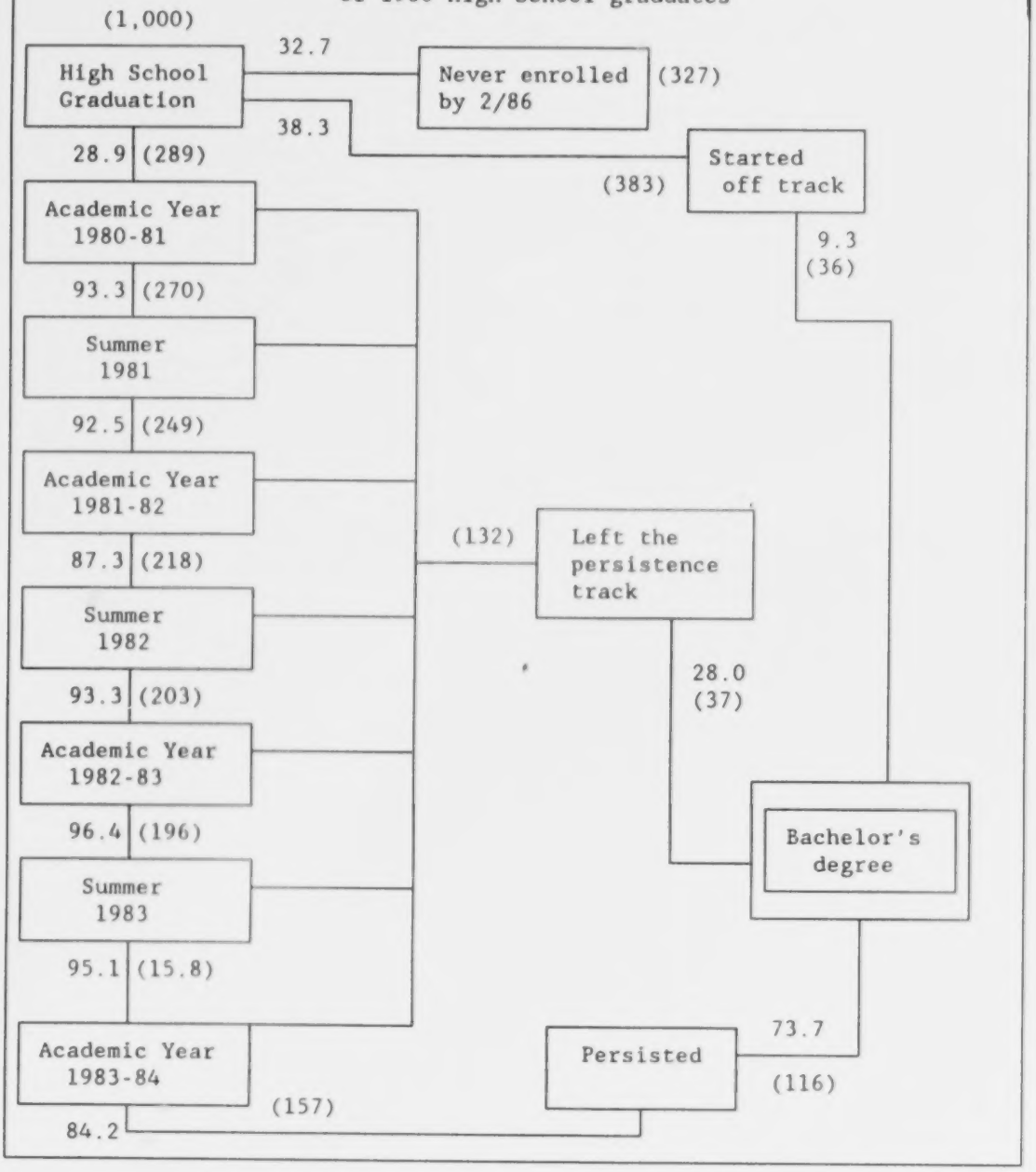


Table 4.1
Rates of bachelor's degree attainment for 1980 high school graduates

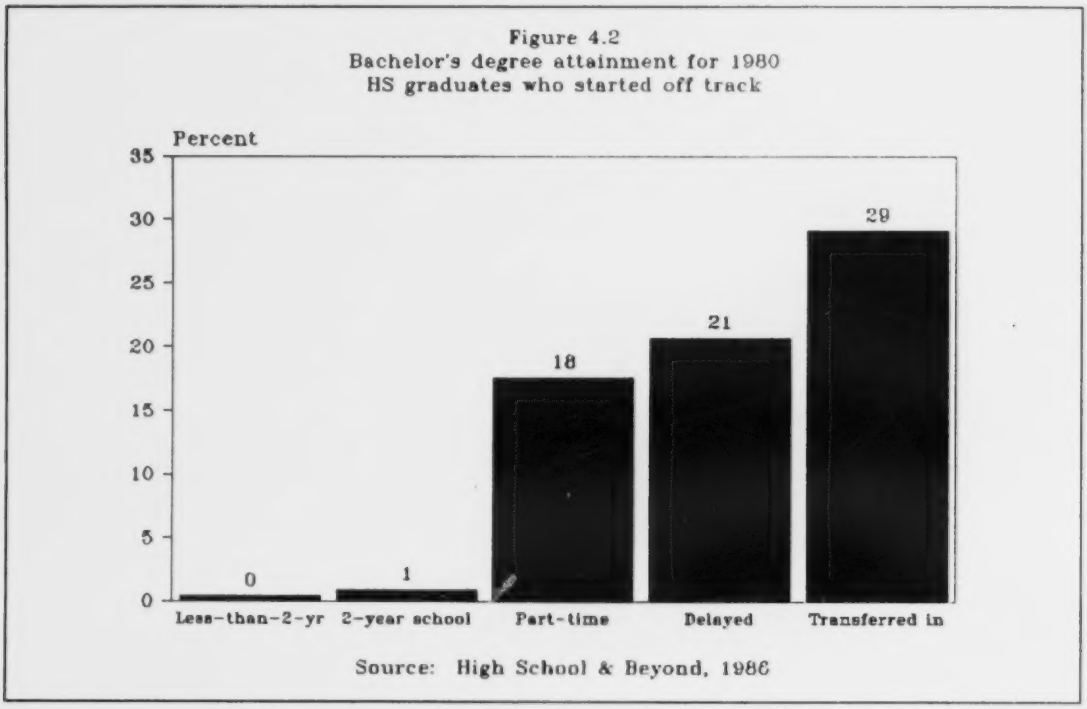
Item	Started off track	Started on track	Left track	Persisted
Total	9.3	52.8	28.0	73.7
Gender				
Male	11.3	51.6	28.2	70.3
Female	7.6	53.8	27.9	76.9
Race/ethnicity				
White	10.3	56.2	31.2	76.2
Black	5.2	30.6	13.6	52.7
Hispanic	4.3	32.5	15.5	55.6
Asian	15.0	49.9	21.2	68.2
Socioeconomic status				
Low quartile	3.8	36.8	16.9	64.6
High quartle	19.4	61.1	34.9	78.2
Type of college 9/80				
Public 4-year	+	48.9	24.5	71.0
Private 4-year	+	60.3	35.5	78.5

+ not computed.

Rates also varied by socioeconomic status (SES). Only 4 percent of low SES 1980 high school graduates who started off track subsequently attained degrees. The corresponding rate for high SES graduates was 19 percent.

Type of off-track start

In section 2, five types of off-track starts were identified. The rates of subsequent bachelor's degree attainment varied for the five subgroups of 1980 high school graduates who started off track (figure 4.2). Students who began their studies at 2-year or less-



than-2-year institutions and never transferred to 4-year institutions rarely reported attaining bachelor's degrees. Roughly one-fifth of students who began part time or delayed entry into 4-year institutions attained bachelor's degrees. Students who transferred into 4-year institutions from less-than-4-year institutions[11] completed bachelor's degrees at a higher rate, 29 percent.

Although the High School and Beyond sample sizes were too small to produce reliable estimates for some subgroups,[12] two interesting differences were found by examining socioeconomic status (not shown in tables or figures). When high SES 1980 high school graduates started off track by beginning part time, 38 percent of them subsequently attained bachelor's degrees. In comparison, the rate for low SES part-

[11]Due to the exclusive nature of the categories, these students began their studies full time at less-than-4-year institutions in the fall of 1980.

[12]For example, there were only 9 Asians who began their studies part time.

timers was 3 percent. Similarly, 34 percent of high SES delayers attained degrees but only 8 percent of low SES delayers attained degrees.

Implications of leaving the persistence track

As shown in figure 4.1 and table 4.1, 28 percent of 1980 high school graduates who left the persistence track attained bachelor's degrees. However, the bachelor's degree attainment rate varied substantially for selected subgroups of students.

Subgroup differences

Nearly one-third of white 1980 high school graduates who left the persistence track attained bachelor's degrees. In comparison, 14 percent of blacks and 16 percent of Hispanics who left the track attained degrees. The rates for whites and Asians were not statistically different.[13]

When high SES students left the persistence track, their rate of bachelor's degree attainment was twice that of low SES students (35 vs. 17 percent).

The type of 4-year institution that 1980 high school graduates entered was also related to their degree attainment when they left the track. One-fourth of the students who began in public 4-year institutions and left the track attained bachelor's degrees. The corresponding rate for students who began in private 4-year institutions was 36 percent.

Timing of departures

As expected, students who left the persistence track during their first year (academic year 1980-81) were about one-fourth as likely to attain bachelor's degrees as were students who left during their fourth year (13 vs. 55 percent). However, as figure 4.4 shows, the relationship between timing of departures and degree attainment was not linear. That is, additional time enrolled did not always result in high likelihoods of completing the degrees.

Depleted sample sizes did not allow examination of the relationships between degree attainment and the timing of departures by subgroups.

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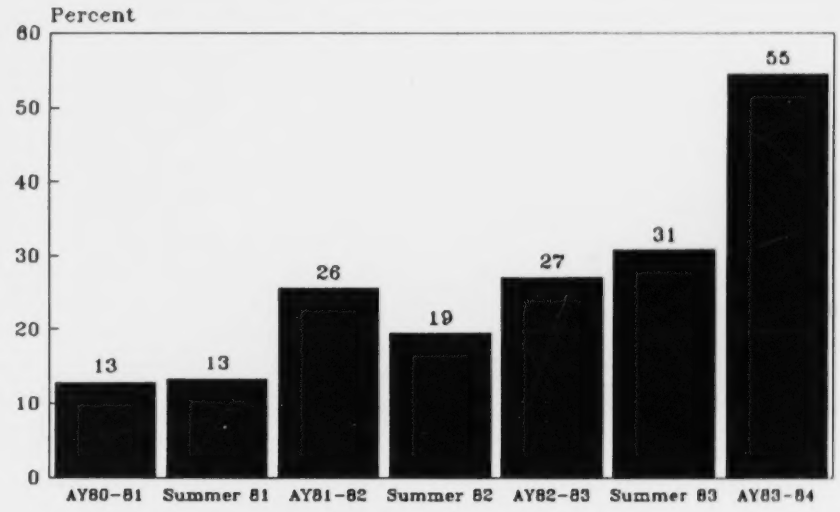
[13]This failure to find a statistical difference was probably attributable to the small sample size for Asians (50) who left the persistence track.

Figure 4.3
Bachelor's degree attainment rates by when students left the persistence track

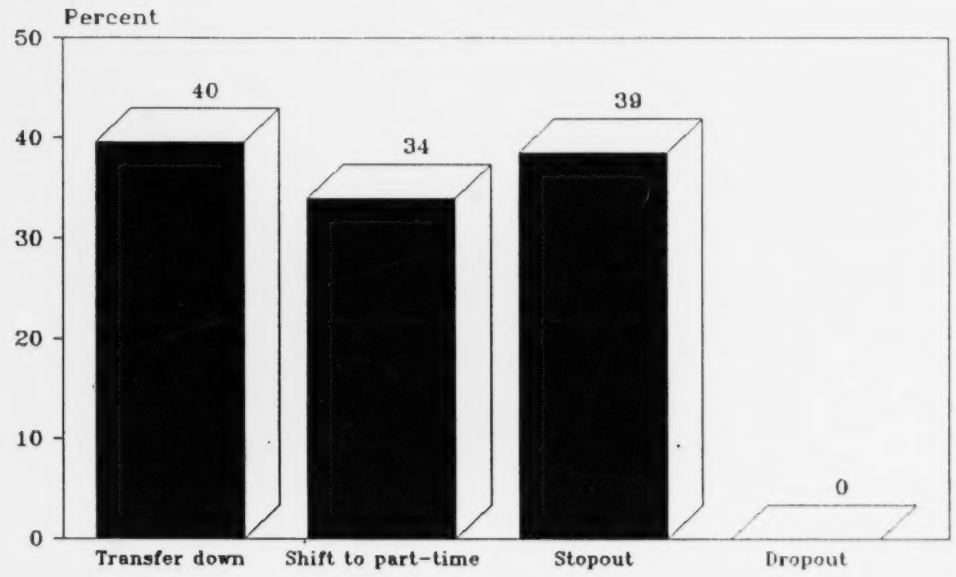


Source: High School and Beyond, 1986

Types of departures

By definition, dropouts never return to complete bachelor's degrees. (For the class of 1980 this would be by February of 1986.) However, more than one-third of students in the other three categories did complete bachelor's degrees (figure 4.4).

Figure 4.4
Bachelor's degree attainment rates by how students left the persistence track



Source: High School and Beyond, 1986

Depleted sample sizes did not allow examination of the relationships between degree attainment and the types of departures by subgroups.

Implications of persisting on track

About three-quarters of 1980 high school graduates who persisted on track through academic year 1983-84 subsequently attained bachelor's degrees (table 4.2). Students who started in private 4-year institutions attained degrees at a higher rate than students who started in public 4-year institutions (79 vs. 71 percent).

Table 4.2
Rates of bachelor's degree attainment for 1980 high school graduates who persisted on track through academic year 1983-84

Item	Total	Public	Private
Total	73.7	71.0	78.5
Gender			
Male	70.3	67.8	74.6
Female	76.9	74.0	82.2
Race/ethnicity			
White	76.2	73.4	80.9
Black	52.7	52.2	53.7
Hispanic	55.6	56.9	53.1
Asian	68.2	68.6	low n
Socioeconomic quartile			
Low quartile	64.6	64.3	65.2
High quartile	78.2	76.2	81.1

The difference for students who started at public and private 4-year institutions varied somewhat by subgroups. For example, females who started at private institutions and persisted through academic year 1983-84 were more likely to attain bachelor's degrees than females who started at public institutions (82 vs. 74 percent). However, the public/private difference was not statistically significant for males.

More than 4 out of 5 white 1980 high school graduates (81 percent), who entered private 4-year institutions and persisted through academic year 1983-84, subsequently attained bachelor's degrees. The corresponding rate for whites who entered public institutions was lower (73 percent). The public/private rates for blacks and Hispanics were not significantly different. The sample size for Asians was too small to compute a reliable estimate for private institutions.

No statistically significant differences in the public/private rates were found for low or high socioeconomic students.

5. Transfers

This section describes the special case of transferring from one 4-year institution to another. For many students, as was shown in section 3, transfers disrupt persistence because the transfer often occurs after a period of withdrawal–that is, many stopouts also transfer. In this section, the focus is on a different type of transfer called a persisting transfer. When a student transfers from one college to another without a gap or period of nonenrollment,[14] two things have happened. First, the student has transferred. Second, the student has persisted (at least for an additional 1 month). Because both of these things happened, it is difficult to gauge the effect of the transfer on persistence (or degree attainment, which is highly related to persistence).

Rates of persisting transfers

For the group of 1980 high school graduates who started on track and persisted for their first academic year, only 14 percent transferred (table 5.1). No differences

Table 5.1
Rates of persisting transfers for 1980 high school graduates who persisted on track through academic year 1980-81

Item	Total	Public	Private
Total	14.4	13.2	15.0
Gender			
Male	13.5	11.8	14.3
Female	15.2	14.5	15.5
Race/ethnicity			
White	14.7	13.3	15.4
Black	12.6	11.9	12.9
Hispanic	12.2	12.5	12.1
Asian	13.7	4.0	17.4
Socioeconomic quartile			
Low quartile	11.4	15.5	9.7
High quartile	16.4	11.7	19.4

[14] A gap of 1 month was allowed to address semester-to-quarter or vice versa transfers.

based on gender, race/ethnicity, or the type of college initially attended were found. However, high socioeconomic status students transferred more frequently than low SES students (16 vs. 11 percent).

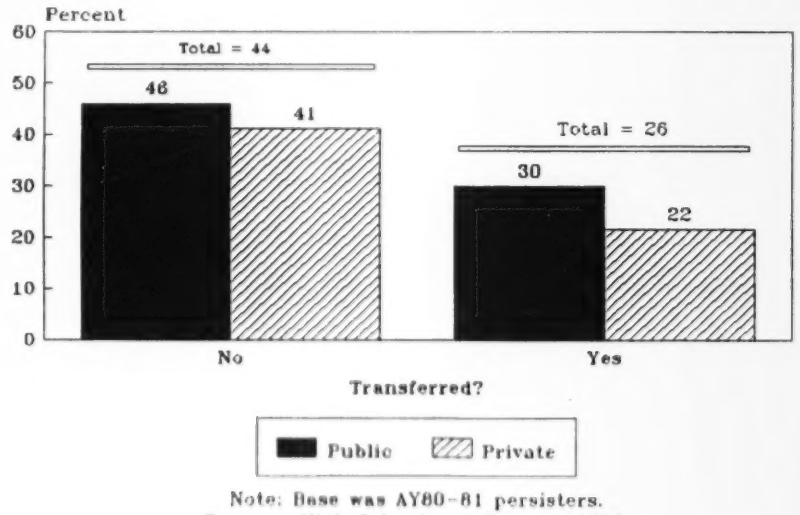
In addition, there was a relationship between SES and the type of institution first attended. That is, 19 percent of high SES students who first attended private institutions subsequently transferred. The corresponding rate for high SES students who first attended public institutions was 12 percent. No statistically significant public/private differences in transfer rates were found for low SES students.

Persistence implications of transfers

As described above, transfer behavior includes both transfer and persistence. As such, it is not appropriate to compare transferring students with all others. However, it may be appropriate to ask, *Do transferring students leave the persistence track at lower rates?* As figure 5.1 shows, the answer is "yes" when transfer students are compared to those who persisted through academic year 1980-81 and never transferred. Only 26 percent of transferring students left the persistence track, while 44 percent of students who never transferred left.

The effect of transferring from public or private 4-year institutions was similar to that found for the total group. (Although figure 5.1 suggests a large public/private difference for transferring students, it is not statistically significant.)

Figure 5.1
Rates of leaving the persistence track
for 1980 high school graduates

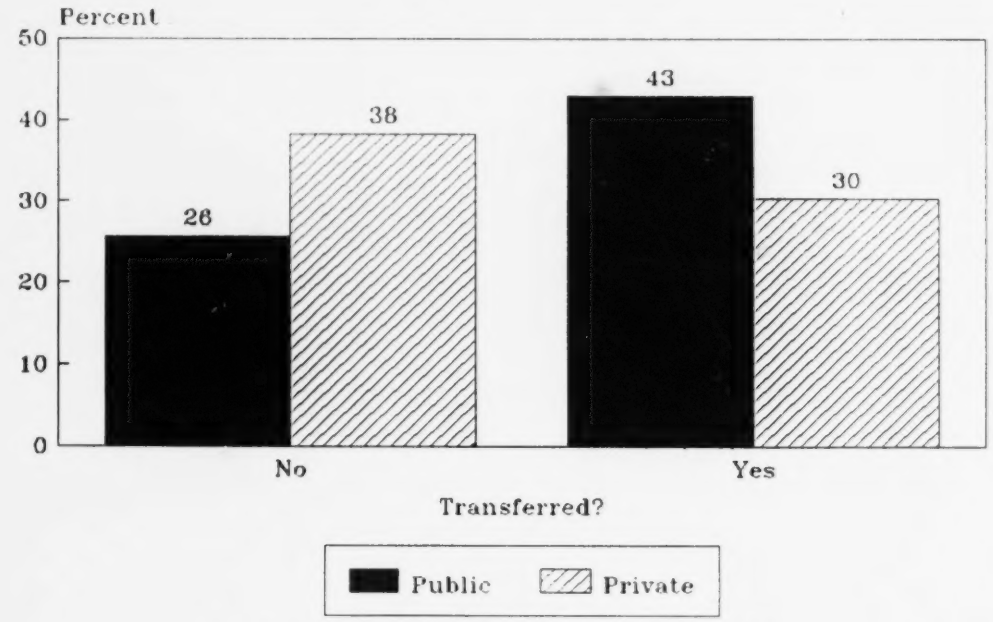


Note: Base was AY80-81 persisters.
Source: High School and Beyond, 1986.

Degree attainment implications of transfers

To help define the relationship between transfers and persistence, the group of 1980 high school graduates who persisted through academic year 1980-81 was divided into two subgroups. First, the subgroup of students who left the persistence track was examined. As figure 5.2 shows, the type of institution initially entered influenced the effect of transfers for students who left the persistence track. About one-quarter of the students who entered public institutions, did not transfer, and left the persistence track

Figure 5.2
Rates of BA/BS attainment for 1980
high school graduates who left the track



Source: High School and Beyond, 1986.

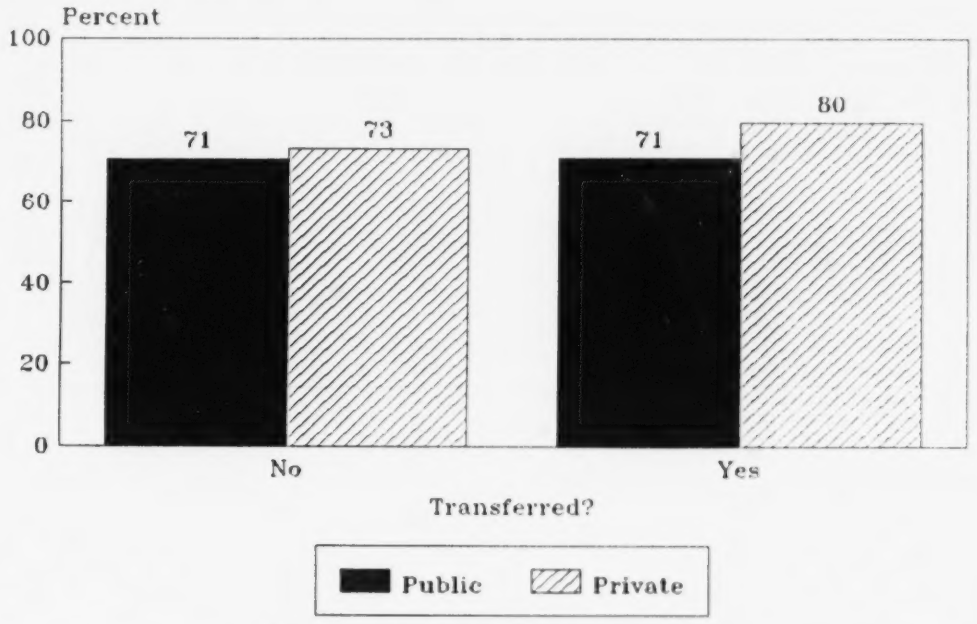
completed bachelor's degrees. In comparison, 38 percent of the students who entered private institutions, did not transfer, and left the persistence track completed bachelor's degrees. Meanwhile, there was no public/private difference[15] for transfer students.

The second subgroup consisted of students who persisted through academic year 1983-84. For this subgroup there were no statistically significant differences between

[15]The public/private difference was not large enough to overcome the very small sample size for transferring students.

students who transferred and those who did not transfer. As figure 5.3 shows, about three-fourths of these students attained bachelor's degrees in both public and private institutions.

Figure 5.3
Rates of BA/BS attainment for 1980 high school graduates who persisted 4 years



Source: High School & Beyond, 1986.

6. Discussion

Persistence toward a bachelor's degree is made up of a complex set of transitions. The traditional persistence track through 4-year institutions does not reflect the behavior of over one-half of the high school graduates who pursued some form of postsecondary education. Many students begin their postsecondary careers off track. Indeed, only 29 percent of 1980 high school graduates began on track. By starting off track, nontraditional students may have presented postsecondary institutions with the resource problem that accompanies increases in diversity of student bodies. That is, institutions may have devoted scarce resources to a greater variety of services and support mechanisms. This problem, in turn, probably influenced the efficiency of 4-year institutions in terms of the time and resources necessary to produce bachelor's degrees.

The efficiency was probably affected by the high rates at which students who started on track left the persistence track. Stopout behavior, found for one-half of the 1980 high school graduates who started on track, may have been disruptive for institutions. (Learning curve decay, frequently discussed in the psychological literature, may have been one source of difficulty for students and consequently for faculty.) Shifts to part time status also may have required increased institutional resources to provide timely and cohesive instruction.

From the student perspective, decisions related to the traditional persistence track were major, even if students were forced off the persistence track by a variety of factors beyond their control. Beyond the obvious impact of a decision never to attend a postsecondary institution, the other paths through postsecondary education drastically affect the likelihood of eventually attaining a bachelor's degree. Less than one-tenth of 1980 high school graduates who started off track attained bachelor's degrees. When they started on track, the likelihood of getting the degree was five times higher. Over one-half of 1980 high school graduates who started on track earned bachelor's degrees.

Knowing that a decision to delay entry, begin part time, or attend a less-than-4-year institution can mean that the chances of getting a bachelor's degree are 5 times lower than they would be if the student started on track should result in better decisions by high school seniors. What may be difficult to moderate are the aspirations that are related to the decisions about postsecondary education made by high school seniors. Aspirations for some college without specific degree aspirations, resulted in only 15 percent of the 1980 high school graduates beginning on track.

Once on the persistence track, the implications of leaving the track were also substantial. Overall, 28 percent of 1980 high school graduates who left the persistence track attained bachelor's degrees. Only 14 percent of blacks and 16 percent of Hispanics who left the persistence track subsequently attained bachelor's degrees. Even fewer (5 percent) who started off track attained bachelor's degrees.

If a departure from the persistence track was made early, during the first year or the following summer, the likelihood of bachelor's degree attainment was essentially the same as if the student started off track. Furthermore, there did not appear to be any

optimal way to leave the track. For 1980 high school graduates who stopped out, shifted to part time, or transferred to less-than-4-year institutions, the rates of subsequent bachelor's degree attainment were about one-half of the rate found for persisters.

Staying on the persistence track was not found to be a guarantee of bachelor's degree attainment. About three-fourths of the 1980 high school graduates who persisted through academic year 1983-84 earned bachelor's degrees by February of 1986. The private sector, with higher tuition than the public sector, showed higher rates of degree attainment.[16] When students began in private institutions and persisted, 79 percent subsequently attained degrees. The rate for public institutions was 71 percent. However, the public/private differences were not uniformly applicable to all subgroups of 1980 high school graduates. For example, the rate for white students in private institutions was higher than the rate for white students in public institutions, but the rates were not different for black or Hispanic students.

Finally, about one-eighth of the 1980 high school graduates who started on track and persisted through academic year 1980-81, transferred from one 4-year institution to another 4-year institution *and* did so maintaining their persistence. These transfers did not appear to decrease the likelihood of degree attainment. In fact, these transfers slightly improved the likelihood of degree attainment. Although most institutions dislike losing students to other institutions, it may be beneficial from the student's perspective.

While the persistence track model presented in this report may be an interesting method of categorizing the paths high school seniors follow, it may be artificial. High school students may not have control over which path or paths to follow. There may be moderating characteristics that render the track model meaningless. In supporting the aspirations of individuals to attain bachelor's degrees, opportunities and services may be of primary importance. However, in times of scarce resources for the provision of opportunities and services, efficiency from the point of view of the institution may be an important issue.

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[16]No judgments concerning the benefit/cost ratio should be inferred.

Appendix A

Methodology and Technical Notes

METHODOLOGY AND TECHNICAL NOTES

The estimates presented in this report were based on the High School and Beyond data. A complete description of these data is provided in *High School and Beyond 1980 Senior Cohort Third Follow-Up (1986) Data File User's Manual* (National Center for Education Statistics, 1987, CS 87-407m). High School and Beyond is a longitudinal study of 1980 high school seniors and sophomores. The study began in 1980 by collecting questionnaire data from randomly selected seniors and sophomores in a nationally representative sample of public and private high schools. These students were recontacted and questionnaires were administered in 1982, 1984, and 1986.

The subgroups (gender, race/ethnicity, and socioeconomic status) examined in this report were classified using composite variables included on the High School and Beyond data tapes. Appendix C of the user's manual describes the construction and composition of these variables. Bachelor's degree attainment was also derived from a composite variable. The persistence data, however, was generated from a series of event history items. Specifically, questionnaire item 33 from the 1982 survey, questionnaire items 18, 19, and 20 from the 1984 survey, and questionnaire items 21 and 22 from the 1986 survey were used. These items identified the start and end dates of enrollment in postsecondary institutions and the full- or part-time status of the students.

The data from the postsecondary education items were merged with data from the Higher Education General Information Survey. Using this process, the types of institutions attended were identified.

Quality of estimates

The estimates presented in this report are in the category labeled as "point estimates" by most statisticians. As such, they are subject to two major types of errors. The first type of error in the estimates is known as sampling error. Sampling errors result from using samples of students rather than a census of all students. The High School and Beyond sample is one of many possible samples of 1980 high school seniors. If a different sample were to be used, many of the estimates would be slightly different. The extent of differences in estimates due to sampling is judged by the standard error (s.e.) of the estimates. For complex samples like the High School and Beyond sample, complex procedures are needed to calculate the standard errors. For this report, standard errors for all the estimates were calculated using Taylor residual estimation procedures (that have been judged as appropriate in several previous studies). All of the standard errors are presented in appendix B.

The second type of error is known as nonsampling error. Nonsampling errors can be attributed to a number of sources: inability to obtain complete information about all students in all schools in the sample (such as some students' or schools' refusing to participate or students' participating but answering only certain items); ambiguous definitions; differences in interpreting questions; inability or unwillingness to give correct information; mistakes in recording or coding data; and other errors of collecting, processing, sampling, and estimating missing data.

The nonsampling errors are difficult to estimate. The major sources of nonsampling error considered were nonresponse bias and the reliability and validity of the data. The High School and Beyond instrument response rates were all above 85 percent, and the item response rate within instruments for the items used to develop the estimates in this report were above 95 percent. The weights used to calculate the estimates were constructed in a fashion that compensated for instrument nonresponse. Investigations of the nonresponse bias found no major problems (see *High School and Beyond First Follow-Up (1982) Sample Design Report*, by R. Tourangeau, H. McWilliams, C. Jones, M. Frankel, and F. O'Brien, Chicago: National Opinion Research Center, 1983).

The reliability and validity of the High School and Beyond data have been examined in *Quality of Responses of High School Students to Questionnaire Items* by W. Fetters, P. Stowe, and J. Owings, Washington: National Center for Education Statistics, 1984. This study found that the reliability and validity of responses vary considerably depending on the item and the characteristics of the respondent. Contemporaneous, objective, and factually oriented items were more reliable and valid than subjective, temporally remote, and ambiguous items. Older, white, or high-achieving students provided more reliable and valid responses than did younger, minority group, or low-achieving students.

The accuracy of any estimate is determined by the effects of sampling and nonsampling errors. In surveys with sample sizes as large as those in the High School and Beyond study, sampling errors generally are not the primary concern. However, some of the estimates included in this report were based on relatively small numbers of students. To allow the reader to judge the accuracy of the estimates, the unweighted sample sizes were included with the standard errors in appendix B. The nonsampling errors, while always of concern, should not have adversely influenced the estimates due to the focus on college students.

Statistical difference testing

Statements concerning differences included in this report were tested using **Students' t-tests** incorporating the estimated differences and the standard errors of the estimates. Unless otherwise noted, all of the differences were statistically significant at a 95 percent level of confidence. To compare two estimates, p_1 and p_2, compute **Students' t-value** as:

$$t = (p_1 - p_2) \,/\, \mathrm{Sqrt}[(se_1)^2 + (se_2)^2]$$

The critical values (that is, 1.65 for 90 percent confidence, 1.96 for 95 percent confidence, and 2.58 for 99 percent confidence) are relatively conservative due to the longitudinal nature of the data.

The testing of differences for statistical significance using **Students' t-tests** was not an application of statistical inference. The High School and Beyond data, while statistically representative, are not a collection of inference samples. That is, there was no random assignment of individuals to subgroups for the purpose of making inferential

comparisons. If this were the case, the hundreds of **Students' t-tests** included in this report (and the hundreds of other reports using the High School and Beyond data) would suffer from problems of multiple comparisons.[17] Rather, differences in the point estimates presented in this report were bounded by confidence intervals (based on the standard errors of the point estimates). The **Students' t-values** simply indicate the level of confidence that may be placed in a statement that the confidence interval does not include zero.

The biggest problem with the statistical testing procedures for this report was not multiple comparisons. It was the more subtle problem of confounding of relationships. Confounding occurred because many of the subgroup variables were known to be related. It was also the case that some of the dependent variables were related. An example of the confounding was the relationship between socioeconomic status and postsecondary institution type (that is, public or private). High socioeconomic status students were more likely to attend private institutions. Hence, when public and private institutions were compared, to some extent the comparisons reflected differences attributable to socioeconomic status in addition to whatever the "true" difference in public and private institutions was. Readers are cautioned that no multivariate methods were applied to untangle the confounding of subgroup relationships. As such, readers should keep in mind that the differences described in this report reflect simple (and uncontrolled) estimates for the subgroups.

Persistence modeling

The flow model using academic years and summers is one of many possible persistence models. It was selected for this report because it fits well with the High School and Beyond data characteristics. Other models, including more complex monthly models, may yield different estimates. It is known from prior research [18] that less complex models result in similar estimates.

The transitions presented in the model frequently reflect different bases, or numbers of students used to gauge the rate of transition. Unless noted, the transition rates are multiplicative rather than cumulative. For example, to estimate the percentage of 1980 high school graduates who persist into the second year, 28.9 percent should be multiplied by 93.3 percent and 92.5 percent (see figure 3.1) to yield an estimate of 24.9 percent.

The winnowing bases used for the calculation of transition rates were documented in appendix B. Readers are encouraged to check the base for transition rates using the unweighted sample sizes.

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[17]When multiple comparisons are used in inferential statistics, there is a major problem with the exponentiation of error rates.

[18]See C.D. Carroll, Student Financial Assistance and Consequences, paper presented at the 147th Annual Meeting of the American Statistical Association, August 1987.

Appendix B

Supporting Tables

Table B.1

Standard errors and unweighted sample sizes for estimates presented in table 2.1

Item	Never enrolled	Started off track	Started on track
	Standard errors		
Total	0.79	0.75	0.80
Gender			
Male	1.11	1.05	1.06
Female	0.98	0.99	1.03
Race/ethnicity			
White	0.92	0.90	0.93
Black	1.45	1.34	1.40
Hispanic	2.41	2.23	1.43
Asian	1.79	4.77	5.09
Socioeconomic status			
Low quartile	1.28	1.18	0.80
High quartile	1.02	1.59	1.74
Education aspirations as of 2/80			
None	1.44	1.43	0.29
Vocational	1.65	1.67	0.57
Some college	1.65	1.87	1.23
Bachelor's degree	0.78	1.46	1.53
Advanced degree	0.66	1.49	1.58
	Unweighted sample sizes		
Gender			
Male	4,866	4,866	4,866
Female	5,717	5,717	5,717
Race/ethnicity			
White	5,268	5,268	5,268
Black	2,740	2,740	2,740
Hispanic	1,955	1,955	1,955
Asian	357	357	357
Socioeconomic status			
Low quartile	3,683	3,683	3,683
High quartile	1,907	1,907	1,907
Education aspirations as of 2/80			
None	1,635	1,635	1,635
Vocational	1,847	1,847	1,847
Some college	1,529	1,529	1,529
Bachelor's degree	2,639	2,639	2,639
Advanced degree	2,274	2,274	2,274

Table B.2
Standard errors and unweighted sample sizes for the estimates presented in figure 2.3

Item	Standard error	Sample size
Total	0.86	9,924
Gender		
Male	1.17	4,497
Female	1.07	5,427
Race/ethnicity		
White	1.02	4,881
Black	1.31	2,604
Hispanic	1.89	1,886
Asian	3.14	340
Socioeconomic status		
Low quartile	1.10	3,602
High quartile	1.49	1,863

Table B.3

Standard errors and unweighted sample sizes for the estimates presented in table 2.2

Item	Less-than-2-year	2-year	Part-time	Delayed entry	Transfer in
			Standard errors		
Total	1.09	1.33	0.42	0.96	0.91
Gender					
Male	1.49	1.89	0.63	1.44	1.34
Female	1.36	1.66	0.53	1.16	1.18
Race/ethnicity					
White	1.27	1.58	0.50	1.16	1.09
Black	2.31	2.55	0.56	1.68	1.61
Hispanic	3.13	3.67	0.59	1.13	2.70
Asian	2.69	5.04	4.93	2.29	5.09
Socioeconomic status					
Low quartile	2.06	2.36	0.62	1.23	1.39
High quartile	1.56	2.54	1.17	2.32	2.22
Education aspirations 2/80					
None	3.47	3.69	0.65	2.48	1.40
Vocational	2.66	2.60	0.47	1.21	1.23
Some college	1.54	2.42	0.75	1.39	1.77
Bachelor's degree	0.98	2.48	1.11	2.07	2.23
Advanced degree	1.33	2.86	1.55	2.57	3.07
			Unweighted sample sizes		
Total	4,015	4,015	4,015	4,015	4,015
Gender					
Male	1,774	1,774	1,774	1,774	1,774
Female	2,241	2,241	2,241	2,241	2,241
Race/ethnicity					
White	1,939	1,939	1,939	1,939	1,939
Black	945	945	945	945	945
Hispanic	866	866	866	866	866
Asian	163	163	163	163	163
Socioeconomic status					
Low quartile	1,362	1,362	1,362	1,362	1,362
High quartile	671	671	671	671	671
Education aspirations 2/80					
None	352	352	352	352	352
Vocational	895	895	895	895	895
Some college	883	883	883	883	883
Bachelor's degree	978	978	978	978	978
Advanced degree	671	671	671	671	671

Table B.4

Standard errors and unweighted sample sizes for estimates presented in table 2.3

Item	Standard error	Sample size
Total	1.43	3,201
Gender		
Male	1.91	1,412
Female	1.86	1,789
Race/ethnicity		
White	1.60	1,805
Black	2.65	783
Hispanic	4.10	421
Asian	6.41	149
Socioeconomic status		
Low quartile	2.58	733
High quartile	2.23	1,034
Education aspirations as of 2/80		
None	low n	29
Vocational	8.92	54
Some college	4.35	205
Bachelor's degree	1.82	1,361
Advanced degree	2.13	1,422

Table B.5

Standard errors and unweighted sample sizes for percentage estimates presented in table 3.1

Item	AY 80-81	Summer 1981	AY 81-82	Summer 1982	AY 82-83	Summer 1983	AY 83-84	From start	From high school
				Standard errors					
Total	0.67	0.69	0.93	0.73	0.56	0.67	1.20	1.29	0.59
Gender									
Male	0.90	0.96	1.45	1.07	0.78	0.85	1.74	1.93	0.81
Female	0.99	0.97	1.19	1.00	0.80	0.99	1.59	1.66	0.76
Race/ethnicity									
White	0.77	0.76	1.07	0.81	0.59	0.76	1.36	1.47	0.69
Black	1.88	1.74	1.67	2.02	2.55	1.42	2.79	2.96	1.04
Hispanic	1.87	5.31	2.49	2.03	1.24	2.19	5.74	3.99	0.78
Asian	0.50	2.72	6.02	6.49	0.86	4.60	3.70	7.30	4.40
Socioeconomic status									
Low quartile	1.33	1.61	2.67	1.83	1.43	2.78	2.74	2.72	0.50
High quartile	0.81	1.04	1.25	1.04	0.78	0.86	1.81	2.10	1.55
Type of college as of 9/80									
Public 4-year	0.85	0.83	1.11	0.90	0.73	0.91	1.54	1.65	1.65
Private 4-year	1.19	1.21	1.73	1.24	0.89	0.73	1.86	2.18	2.18
				Unweighted sample sizes					
Total	3,201	2,972	2,725	2,359	2,191	2,100	1,979	3,201	10,583
Gender									
Male	1,412	1,324	1,220	1,054	980	937	890	1,412	4,866
Female	1,789	1,648	1,505	1,305	1,211	1,163	1,089	1,789	5,717
Race/ethnicity									
White	1,805	1,680	1,562	1,382	1,292	1,247	1,194	1,805	5,268
Black	783	727	654	534	487	460	418	783	2,740
Hispanic	421	379	339	290	266	252	232	421	1,955
Asian	149	147	135	126	120	115	110	149	357
Socioeconomic status									
Low quartile	733	666	596	498	452	424	378	733	3,683
High quartile	1,034	993	929	841	787	762	736	1,034	1,907
Type of college as of 9/80									
Public 4-year	2,112	1,951	1,778	1,530	1,418	1,359	1,266	2,112	2,112
Private 4-year	1,089	1,021	947	829	773	741	713	1,089	1,089

Table B.6

Standard errors and unweighted sample sizes for estimates presented in table 3.2

Item	Transfer down	Shift part-time	Stop out	Drop out
		Standard errors		
Total	1.29	1.18	1.93	1.63
Gender				
Male	2.15	1.75	3.00	2.27
Female	1.51	1.59	2.43	2.25
Race/ethnicity				
White	1.55	1.41	2.27	1.94
Black	1.45	2.33	3.58	3.12
Hispanic	5.22	2.21	6.09	4.24
Asian	6.33	3.08	11.09	9.03
Socioeconomic status				
Low quartile	2.40	1.69	3.40	3.55
High quartile	2.12	2.43	3.34	2.28
Type of college as of 9/80				
Public 4-year	1.57	1.35	2.22	1.99
Private 4-year	2.09	2.31	3.55	2.73
		Unweighted sample sizes		
Total	1,525	1,525	1,525	1,525
Gender				
Male	648	648	648	648
Female	877	877	877	877
Race/ethnicity				
White	782	782	782	782
Black	443	443	443	443
Hispanic	229	229	229	229
Asian	50	50	50	50
Socioeconomic status				
Low quartile	412	412	412	412
High quartile	405	405	405	405
Type of college as of 9/80				
Public 4-year	1,052	1,052	1,052	1,052
Private 4-year	473	473	473	473

Table B.7

Standard errors and unweighted sample sizes for estimates presented in table 3.3

Item	Percentage leaving during AY 80-81 (0.5)	Summer 1981 (1.0)	AY 81-82 (1.5)	Summer 1982 (2.0)	AY 82-83 (2.5)	Summer 1983 (3.0)	AY 83-84 (3.5)	Average number of years
				Standard errors				
Total	1.38	1.37	1.65	1.17	0.85	0.97	1.62	0.04
Gender								
Male	1.95	2.01	2.61	1.73	1.23	1.30	2.40	0.06
Female	1.95	1.83	2.12	1.57	1.19	1.40	2.10	0.05
Race/ethnicity								
White	1.61	1.58	1.97	1.36	0.94	1.15	1.94	0.05
Black	3.17	2.73	2.37	2.38	2.79	1.38	2.66	0.08
Hispanic	3.44	7.57	3.62	2.50	1.29	2.25	5.46	0.14
Asian	1.32	7.28	12.47	12.55	1.72	8.46	7.06	0.17
Socioeconomic status								
Low quartile	2.26	2.46	3.52	2.06	1.46	2.81	2.32	0.07
High quartile	1.95	2.45	2.67	2.02	1.46	1.59	2.90	0.07
Type of college as of 9/80								
Public 4-year	1.66	1.60	1.83	1.39	1.05	1.27	2.01	0.05
Private 4-year	2.63	2.57	3.25	2.21	1.49	1.18	2.76	0.07
				Unweighted sample sizes				
Total	1,525	1,525	1,525	1,525	1,525	1,525	1,525	1,525
Gender								
Male	648	648	648	648	648	648	648	648
Female	877	877	877	877	877	877	877	877
Race/ethnicity								
White	782	782	782	782	782	782	782	782
Black	443	443	443	443	443	443	443	443
Hispanic	229	229	229	229	229	229	229	229
Asian	50	50	50	50	50	50	50	50
Socioeconomic status								
Low quartile	412	412	412	412	412	412	412	412
High quartile	405	405	405	405	405	405	405	405
Type of college as of 9/80								
Public 4-year	1,052	1,052	1,052	1,052	1,052	1,052	1,052	1,052
Private 4-year	473	473	473	473	473	473	473	473

Table B.8

Standard errors and unweighted sample sizes for estimates presented in table 4.1

Item	Started off track	Started on track	Left track	Persisted
		Standard errors		
Total	0.68	1.32	1.90	1.51
Gender				
Male	1.09	1.90	2.73	2.39
Female	0.78	1.72	2.46	1.84
Race/ethnicity				
White	0.84	1.48	2.23	1.69
Black	1.02	2.78	2.64	4.44
Hispanic	0.84	3.50	3.28	6.34
Asian	4.98	7.16	8.07	6.78
Socioeconomic status				
Low quartile	0.71	2.68	3.10	3.79
High quartile	1.91	2.00	3.15	2.25
Type of college as of 9/80				
Public 4-year	+	1.64	2.10	1.98
Private 4-year	+	2.08	3.51	2.20
		Unweighted sample sizes		
Total	4,253	3,201	1,525	1,676
Gender				
Male	1,872	1,412	648	764
Female	2,381	1,789	877	912
Race/ethnicity				
White	2,033	1,805	782	1,023
Black	1,030	783	443	340
Hispanic	912	421	229	192
Asian	166	149	50	99
Socioeconomic status				
Low quartile	1,479	733	412	321
High quartile	697	1,034	405	629
Type of college as of 9/80				
Public 4-year	0	2,112	1,052	1,060
Private 4-year	0	1,089	473	616

Table B.9

Standard errors and unweighted sample sizes for estimates presented in figures 4.2, 4.3, and 4.4

Item	Standard error	Unweighted sample size
How started off track		
Less-than-2-year	0.30	794
2-year school	0.33	1,764
Part-time	5.39	133
Delayed	2.59	588
Transferred in	2.43	736
When left track		
AY 80-81	3.60	229
Summer 1981	3.42	247
AY 81-82	3.42	366
Summer 1982	5.06	168
AY 82-83	7.45	91
Summer 1983	7.22	121
AY 83-84	4.22	303
Why left track		
Transfer down	5.53	208
Shift to part-time	5.75	160
Stopout	2.80	725
Dropout	0.00	432

Table B.10
Standard errors and unweighted sample sizes for estimates presented in table 4.2

Item	Total	Public	Private
	Standard errors		
Total	1.52	1.98	2.20
Gender			
Male	2.39	3.08	3.67
Female	1.84	2.43	2.81
Race/ethnicity			
White	1.69	2.22	2.43
Black	4.43	5.35	6.64
Hispanic	6.34	6.50	13.53
Asian	6.73	7.81	low n
Socioeconomic status			
Low quartile	3.79	4.56	6.72
High quartile	2.25	3.00	3.12
	Unweighted sample sizes		
Total	1,676	1,060	616
Gender			
Male	764	479	285
Female	912	581	331
Race/ethnicity			
White	1,023	626	397
Black	340	214	126
Hispanic	192	132	60
Asian	99	74	25
Socioeconomic status			
Low quartile	321	212	109
High quartile	629	371	258

Table B.11
Standard errors and unweighted sample sizes for estimates presented in table 5.1

Item	Total	Public	Private
	Standard errors		
Total	0.97	1.64	1.19
Gender			
Male	1.33	1.99	1.75
Female	1.46	2.52	1.74
Race/ethnicity			
White	1.08	1.74	1.37
Black	2.20	2.42	2.99
Hispanic	2.43	5.04	2.85
Asian	5.61	2.84	7.48
Socioeconomic status			
Low quartile	1.88	3.97	2.17
High quartile	1.56	2.16	2.13
	Unweighted sample sizes		
Total	2,972	1,021	1,951
Gender			
Male	1,324	470	854
Female	1,648	551	1,097
Race/ethnicity			
White	1,680	617	1,063
Black	727	231	496
Hispanic	379	117	262
Asian	147	43	104
Socioeconomic status			
Low quartile	666	204	462
High quartile	993	392	601

Table B.12

Standard errors and unweighted sample sizes for estimates presented in figure 5.1

Item	Transferred: No	Transferred: Yes
	Standard errors	
Total	1.46	3.17
Gender		
Male	2.19	4.71
Female	1.84	4.36
Race/ethnicity		
White	1.66	3.66
Black	2.94	6.65
Hispanic	4.71	3.94
Asian	7.72	low n
Socioeconomic status		
Low quartile	3.04	7.63
High quartile	2.30	4.26
Type of college 9/80		
Public 4-year	1.83	4.07
Private 4-year	2.42	5.03
	Unweighted sample sizes	
Total	2,576	396
Gender		
Male	1,141	183
Female	1,435	213
Race/ethnicity		
White	1,432	248
Black	650	77
Hispanic	330	49
Asian	129	18
Socioeconomic status		
Low quartile	597	69
High quartile	836	157
Type of college 9/80		
Public 4-year	1,695	256
Private 4-year	881	140

Table B.13

Standard errors and unweighted sample sizes for estimates presented in figures 5.2 and 5.3

Item	Off track		Persisted	
	No	Yes	No	Yes
	Standard errors			
Total	2.10	7.65	3.57	1.64
Gender				
Male	2.98	12.03	5.93	2.63
Female	2.78	9.85	4.10	2.01
Race/ethnicity				
White	2.51	8.28	3.92	1.86
Black	3.13	low n	11.79	4.30
Hispanic	3.88	low n	10.42	7.06
Asian	8.25	low n	low n	7.88
Socioeconomic status				
Low quartile	3.73	low n	10.78	3.94
High quartile	3.49	10.57	4.79	2.45
Type of college 9/80				
Public 4-year	2.39	9.15	4.79	2.21
Private 4-year	3.87	12.88	5.22	2.42
	Unweighted sample sizes			
Total	1,203	93	303	1,373
Gender				
Male	515	45	138	626
Female	688	48	165	747
Race/ethnicity				
White	594	63	185	838
Black	364	23	54	286
Hispanic	183	4	45	147
Asian	46	2	16	83
Socioeconomic status				
Low quartile	330	15	54	267
High quartile	330	34	123	506
Type of college 9/80				
Public 4-year	834	57	199	861
Private 4-year	369	36	104	512

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